**Title:**

Elexacaftor/tezacaftor/ivacaftor prescription in lung transplant recipients with cystic fibrosis in the US

**Lay Title:**

Elexacaftor-tezacaftor-ivacaftor prescription after Lung Transplant

**Authors:**

Nora C. Burdisa, Miranda C. Bradfordb, Sonya L. Heltshec,d, Tijana Milinica,

Oliver J. McElvaneya, Erika D. Leasea, Christopher H. Gossa,c,d, Siddhartha G. Kapnadaka,

Brandon L. Guthriee, Kathleen J. Ramosa,d

**Affiliations:**

a. Division of Pulmonary, Critical Care, and Sleep Medicine, Department of Medicine, University of Washington, Seattle WA, United States

b. Seattle Children’s Research Institute, Biostatics Epidemiology and Analytics in Research (BEAR) Core, Seattle, WA, United States

c. Division of Pulmonary and Allergy, Department of Pediatrics, University of Washington, Seattle WA, United States

d. CFF TDNCC Seattle Children’s Research Institute, Seattle, WA, United States

e. School of Public Health, Department of Global Health, University of Washington, Seattle, WA, United States

**What was your research question?**

Elexacaftor-tezacaftor-ivacaftor (ETI) has improved the health of many people with CF because it corrects problems in the CF transmembrane conductance regulator (CFTR) protein, which is the cause of CF disease. We wanted to know how often people with CF were being prescribed ETI, also known as “Trikafta”, after lung transplantation.

**Why is this important?**

ETI is well-known for its pulmonary benefits. People who have received a lung transplant no longer have abnormal CFTR protein in their lungs. However, they do still have abnormal CFTR protein in their sinuses and GI tract. ETI improves sinus, nutrition, and GI health for some people with CF. ETI has not been well studied in people who have lung transplants. Many people are interested in whether ETI can improve the health of transplant recipients with CF. There are also concerns about people with lung transplants taking ETI including the potential for side effects and drug interactions with transplant medicines.

**What did you do?**

We partnered with the Cystic Fibrosis Foundation Patient Registry, which includes health information about many people with CF in the United States. We determined the proportion of people in the registry who were on ETI after their lung transplant. We also wanted to understand what factors increase or decrease the likelihood of being prescribed ETI after lung transplant. We specifically assessed how health conditions like sinus disease and diabetes, certain demographics, and CF center prescribing patterns influenced the likelihood of receiving ETI prescription after lung transplant.

**What did you find?**

We found that 29% of people with CF in the registry who had genotypes eligible for ETI were prescribed ETI after receiving a lung transplant. Sinus disease and low BMI were associated with an increased likelihood of ETI prescription after transplant. Having a genotype with zero copies of the *F508del* CFTR allele and receiving care at a low-prescribing or small CF center were associated with a decreased likelihood of ETI prescription. Demographics such as race, ethnicity, and insurance type did not appear to influence the likelihood of ETI prescription after lung transplant.

**What does this mean and reasons for caution?**

In our study, we found a significant number of lung transplant recipients in the U.S. have been prescribed ETI after transplant. However, this study does not tell us whether ETI use after lung transplantation is good for health. It is possible that as we better understand the health impacts of using ETI after lung transplant that prescribing patterns of ETI may change in the future.

**What’s next?**

More research is needed to understand the potential health benefits and/or harms of taking ETI after lung transplant.

**Original manuscript citation in PubMed**

<https://pubmed.ncbi.nlm.nih.gov/40603159/>